

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): An electron source comprising a single crystal needle of tungsten or molybdenum and as a covering layer on a portion of said needle, a barium-supplying source comprising a complex oxide comprising barium oxide, and an oxide of metal other than barium, wherein the complex oxide is at least ~~one complex oxide selected from the group consisting of~~ BaAl_2O_4 , $\text{BaAl}_{12}\text{O}_{19}$, $\text{Ba}_3\text{Se}_4\text{O}_9$, and BaSe_2O_4 .

Claims 2-4 (Canceled).

Claim 5 (Original): The electron source according to Claim 1, wherein the single crystal needle of tungsten or molybdenum has a $\langle 100 \rangle$ orientation and has a flat surface consisting of a (100) crystallographic plane at the apex of the needle.

Claim 6 (Original): The electron source according Claim 1, wherein the single crystal needle of tungsten or molybdenum has a $\langle 211 \rangle$ orientation and has a flat surface consisting of a (211) crystallographic plane at the apex of the needle.

Claim 7 (Original): The electron source according to Claim 1, wherein when it is operated at an angular intensity of 4.0 mA/sr, the total emission current is at most 350 μA .

Claim 8 (Previously Presented): An apparatus comprising the electron source according to Claim 1, which apparatus is a scanning electron microscope, a transmission electron microscope, a surface analyzer, a semiconductor wafer inspection apparatus or an electron beam lithography machine.

Claim 9 (Previously Presented): A method comprising using the electron source according to claim 1 at a needle temperature of from 1000 K to 1300 K.

Claim 10 (Previously Presented): A method for producing an electron source comprising heating the electron source according to claim 1, at from 1000 K to 1700 K under application of a positive electric potential.

Claims 11-14 (Canceled).

Claim 15 (Previously Presented): The apparatus according to claim 8, which is a scanning electron microscope.

Claim 16 (Previously Presented): The apparatus according to claim 8, which is a transmission electron microscope.

Claim 17 (Previously Presented): The apparatus according to claim 8, which is a surface analyzer.

Claim 18 (Previously Presented): The apparatus according to claim 8, which is a semiconductor wafer inspection apparatus.

Claim 19 (Previously Presented): The apparatus according to claim 8, which is an electron beam lithography machine.